MONTANA OUTDOORS

SEPTEMBER/OCTOBER 1972

FIFTY CENTS

MONTANA OUTDOORS

THE OFFICIAL PUBLICATION OF THE MONTANA FISH AND GAME DEPARTMENT

VOLUME 3, NUMBER 5 SEPTEMBER/OCTOBER 1972

state of montana

FORREST H. ANDERSON, Governor

montana fish and game comission

Willis B. Jones, Chairman
Arnold Rieder, Vice-Chairman
Jack E. Cohn, Member
Robert J. Emmons, Member
Carl Harbaugh Sr., Member

montana department of fish and game

Don L. Brown, Director
Keith A. Freseman, Deputy Director

environment and information division

James A. Posewitz, Administrator

information bureau

Steve Bayless, Chief

editorial staff

Bill Schneider, Editor
Cecelia Huls, Editorial Assistant
Toni Ban, Circulation Manager

Editorial Creed

To promote the preservation of a livable environment for wildlife, which is a quality environment for man.

features

2 a call to action
it's time to save another endangered species, the hunter. by Harry R. Woodward.

6 know your ducks?
this quiz will tell you how much you really know about ducks. by Ken Walcheck.

10 waterfowl key
a pictorial key provided by the Bureau of Sport Fisheries and Wildlife.

14 camp boker
a few crumbling logs are all that remain of the once bustling military outpost. by Dick Ellis.

16 hunter oronge
your favorite hunting jacket may not be the safest. by Mel Wojcik.

26 the power of a woman
what is woman's role in environmental action? by Dorothy Bradley.

30 montana grouse
a pictorial identification guide.

departments

1 director's column
12 classroom conservation
15 montana flora
19 book reviews
22 the catchall
29 the other half
32 dear F&G
33 editorials

THE COVER

Montana hunters might not recognize this bird, although they have probably seen it many times. It's a strutting blue grouse, a pose that is rarely seen by hunters. For more on Montana grouse, please turn to page 30. (F & G photo by Tom Mussehl.)

Ron Ronning, Great Falls, owns the German shorthaired pointer on the back cover and provided the photo. For more on that growing sport, turn to "the catchall" on page 24.

MONTANA OUTDOORS is published six times each year (January, March, May, July, September and November) by the Montana Department of Fish and Game. Unless otherwise indicated, articles found in MONTANA OUTDOORS can be reprinted without permission. Proper credit and a copy of the reprinted material will be appreciated. Contributions (manuscripts or illustrations) are welcome with the understanding that the publisher cannot be held responsible for loss or damage. All contributions will be published at the discretion of the editor. Subscription rates are $2 per year. Multiple copies are available at leading Montana newsstands and at Fish and Game offices. Per copy price is 50c. All correspondence should be addressed to Bill Schneider, Editor, MONTANA OUTDOORS, Dept. of Fish and Game, Helena, MT 59601. Postmaster—MONTANA OUTDOORS is entered and published as second class matter in Butte, MT 59701. Second class postage paid at Butte, MT 59701.

ASHTON'S

a livable environment for WILDLIFE is a quality environment for MAN

AN OPEN HOUSE

In the last issue of MONTANA OUTDOORS we urged sportsmen, the general public, the media, the business world and private clubs to actively celebrate September 23rd—the first annual National Hunting and Fishing Day. After reading about it, some people asked, "But what is Fish and Game going to do?"

We want to dramatize the sportsman's role in conservation. To let this golden opportunity slip by would be pure folly.

So, on this first special day for the sportsman, the Department of Fish and Game will hold an open house at its offices in Helena, Kalispell, Missoula, Bozeman, Billings, Great Falls, Glasgow, Miles City and at state fish hatcheries and game range headquarters. We welcome everyone — sportsman and non-sportsman, young and old, male and female—to our headquarters. Visitors can expect displays on wildlife management, demonstrations on outdoor lore and hunter safety, exhibits, film and lots more.

At this writing, we haven't decided on all the details, but be assured your time will be well spent if you stop by. And bring along a non-sportsman friend. One of the goals of NHF Day is informing the public of the contributions hunters and anglers make to conservation and a liveable environment.

If a person isn't an active sportsman, he or she may not know that this department is almost totally funded by sportsman's dollars. The funds come from license fees and from special excise taxes on hunting and fishing gear. The taxes go into a federal fund and then come back to the states on a matching basis. In normal practice, one Montana license dollar is matched with three federal dollars. Hunters and anglers want these taxes for a special conservation matching fund. They requested special legislation to tax themselves for this fund, then made sure the money was spent for fish and wildlife restoration.

In addition to the sportsman's financial contributions, does the general public know that hunters and fishermen take an active part in the conservation of all wildlife and all natural resources, not just fish and game? Many of the most famous conservationists of this nation, men like Teddy Roosevelt, John James Audubon, Izaak Walton and Aldo Leopold, were also hunters and/or fishermen. The thoughts of these early sportsman-conservationists reveal them as our nation's real environmental prophets.

Sportsmen are often the first to object when a national resource is threatened and history proves sportsmen do something to back their objections. Through the efforts of well qualified department professionals, supported by sportsmen's dollars, more hunting and fishing opportunities exist today than 50 years ago.

Every person who doesn't hunt or fish might not realize these and other facts about the sportsman. And in view of the rising anti-hunting sentiment and the total preservation movement in some urban areas, we feel it's crucial that the general public become acquainted with the facts about fish and wildlife management. A knowledgeable public is not vulnerable to fiction or misrepresented facts.

As a side note, the Fish and Game Commission will honor several Montana landowners who they feel have contributed the most to landowner-recreationist relations. What better day to make such an award than National Hunting and Fishing Day.

Watch for details on our open house and I hope we'll see you there.

Don L. Brown

Don L. Brown

If you want to do something to save the sport of hunting, this may be the most important article you have ever read.

A CALL TO ACTION

BY HARRY R. WOODWARD

TIME IS RUNNING out for sportsmen of this nation unless we close ranks and mount a campaign to save an endangered species, *the hunter.* Hunters are being depicted as a bloodthirsty bunch of ruffians whose sole motive in the hunt is to prove their masculinity. This emotional diatribe is being lead by intellectual prigs, nature fakirs, little old ladies in tennis shoes, prominent actresses, misdirected young people and Buffalo Bill's.

If you doubt my veracity, take a look at this notice, widely distributed among the schools in this nation.

All Hunting except for Survival,
Is a shabby postponement of Growing up.
And any claim that shooting one of God's Creatures
Is Sportsmanlike, should receive the same condemnation.

Conservation agencies and public officials are receiving an increasing crescendo of letters objecting to the killing of any wild creatures at any time. Letters like the one from "Buffalo Bill", threatening the very l i v e s of Game Commissioners and Directors if any buffalo are harvested, are becoming commonplace.

After I delivered a text similar to this one at the Guide and Outfitter's Annual meeting in Craig, Colo., on Dec. 11, 1971, Governor Love received a letter from an irate citizen which contained the following excerpts:

"The characterization of those of us who oppose the annual blood letting and who resent turning the mountains over to the exclusive use of the hunters each fall as being on an emotional binge, and to implicate that this horde of blood lusting lunatics is the fraternity of *real* sportsmen is not worthy of a public official."

"Mr. Woodward should be retired from the field if he cannot see that we have reached a point in civilized thinking where the growing majority of the people no longer look on hunting as one of the social graces."

"Our position is that it takes no education, no skill and no strength of character to kill a wild animal. Any idiot, mental defective or criminal can qualify as a hunter."

A similar letter stated:

"The hunters had it all their way for so long with the result that many animals are on the endangered list. It is past time that the humanitarian anti-hunting segment have their say. It is inconceivable that man would hunt for mere pleasure, but that a p p e a r s to be the case with some."

To further complicate the hunter's image, especially within the western or "public land states", we have a situation developing that will dangerously divide hunters into the two camps—residents and non-residents. This divisive subject is also inextricably involved with the issue of state vs federal jurisdiction over resident wildlife on the p u b l i c lands. Faced with the anti-hunting trend, hunters need to unite nationwide. This is more true today than at any time in our almost 200 year history.

And in this new era of "one-man, one-vote", we face another challenge—one which could become a real threat if states fail to act quickly. The challenge is that of giving equal opportunity to all citizens to hunt and fish on federal lands regardless of the state in which those lands may be located. If our leadership fails to find prompt solutions, acceptable to the sportsmen of the nation, we can expect Congress to make the decisions for us. The states could very well lose their authority and jurisdiction over fish and wildlife as well as their right to require state license fees

---

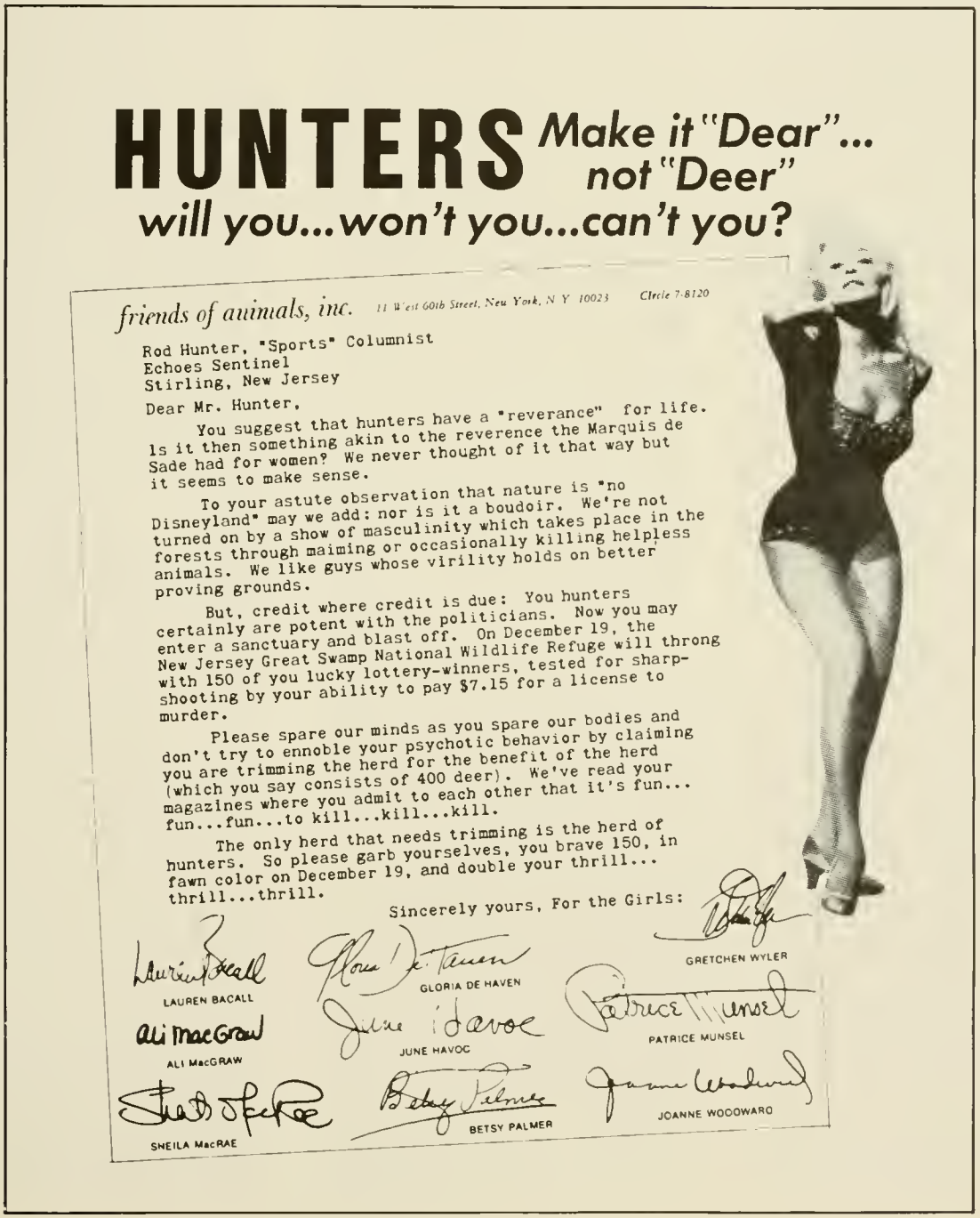
From a talk by Harry R. Woodward, Director, Colorado Division of Game, Fish and Parks, at the Annual Convention of the Idaho Wildlife Federation, March 18, 1972, Idaho Falls, Idaho.

to hunt and fish on public lands. Resident sportsmen, too, would lose their clout and their ability to influence local approaches to game and fish management.

If the sportsmen of the west and their respective state wildlife agencies have the wisdom to develop acceptable variations of the word "equal" as it applies to this situation, and if we have the ability to prevail upon our commissions and state legislatures to enact rational regulations and laws relative to nonresidents, and if we can at the same time bring about reasonably uniform treatment of nonresidents throughout all western states, we need not relenquish this authority to Congress! And we need not give the anti-hunters another reason for stopping or severely restricting the sport of hunting!

Did you know the television industry and other media has presented hunting in a distorted, if not a dishonest, light? They use the "cut and paste" system to present grossly inaccurate documentaries like the infamous "Say Goodbye" show. Prominent news personalities like Walter Cronkite seem to enjoy discrediting hunters.

The moving picture industry is guilty of a great disservice to sportsmen by premiering the movie "Bless the Beasts and the Children." The author of this sorry piece of literature admits to a childhood psychosis as a re-


HUNTERS Make it "Dear"... not "Deer"
will you...won't you...can't you?
friends of animals, inc. 11 West 60th Street, New York, N.Y. 10023 Circle 7-8120
Rod Hunter, "Sports" Columnist
Echoes Sentinel
Stirling, New Jersey
Dear Mr. Hunter,
You suggest that hunters have a "reverance" for life. Is it then something akin to the reverence the Marquis de Sade had for women? We never thought of it that way but it seems to make sense.
To your astute observation that nature is "no Disneyland" may we add: nor is it a boudoir. We're not turned on by a show of masculinity which takes place in the forests through maiming or occasionally killing helpless animals. We like guys whose virility holds on better proving grounds.
But, credit where credit is due: You hunters certainly are potent with the politicians. Now you may enter a sanctuary and blast off. On December 19, the New Jersey Great Swamp National Wildlife Refuge will throng with 150 of you lucky lottery-winners, tested for sharpshooting by your ability to pay $7.15 for a license to murder.
Please spare our minds as you spare our bodies and don't try to ennoble your psychotic behavior by claiming you are trimming the herd for the benefit of the herd (which you say consists of 400 deer). We've read your magazines where you admit to each other that it's fun... fun...fun...to kill...kill...kill.
The only herd that needs trimming is the herd of hunters. So please garb yourselves, you brave 150, in fawn color on December 19, and double your thrill... thrill...thrill.
Sincerely yours, For the Girls:
GRETCHEN WYLER
LAUREN BACALL
GLORIA DE HAVEN
JUNE HAVOC
PATRICE MUNSEL
ALI MacGRAW
SHEILA MacRAE
BETSY PALMER
JOANNE WOODWARD

sult of killing a squirrel one day on his father's Michigan farm. The experience made him vow never again to be the willing cause of an animal's death. It sowed the seed of the story he wrote forty years later. I wonder if he has zealously stuck to a vegetarian diet throughout these years?

The Humane Society in New Jersey recently enjoined the Department of Interior from holding a deer hunt on the Great Swamp National Wildlife Refuge because it said public hunters were not competent and there would be untold suffering by wounded deer. They suggested, as an alternative, the employees of the Bureau of Sport Fisheries and Wildlife slaughter the excess animals.

The Humane Society was supported in this effort by an organization known as Friends of Animals, headed by Miss Alice Herrington. This group bought full page ads in New York newspapers urging readers to write President Nixon to "Help stop the murder of wildlife." F.O.A. proposes a ban on all shooting and trapping on federal lands and they too want "rangers" to slaughter all animals that are overpopulated.

We must not be naive. The conduct and ethics of some hunters leaves much to be desired. The slob hunter who wounds, kills and wastes or kills illegally has brought indefensible discredit upon the fraternity. The same type is responsible for killing livestock, leaving gates open, vandalizing property and otherwise tormenting the private landowner who provides much of our hunting opportunity. I could write a book about the transgressions of this kook just from the reports that reach my desk.

Even though a small minority is responsible, hunters should do their own laundry. As soon as these characters are detected, they should be booted out of the sportsman's group and blacklisted for all time. Persons not willing or not capable of killing their own game should be requested to take up golf or shuffleboard or some other less rigorous sport. Sportsmen who live by the "no-nonsense" rule will not only benefit their own hunting party but the entire hunting fraternity. I am certain, too, that there is room for state wildlife agencies to stiffen their backs in dealing with slobs. And we need to search for ways and means to reserve the privilege of hunting for those true sportsmen from all walks of life and from all races, creeds and colors who really appreciate hunting as a wholesome sport.

We must readily admit and accept the fact that hunting today is not for the purpose of survival or even sustenance. Rather, it is a behavioral pattern and, as an adventure, is an outlet for the energy that is within each of us. In order to "sell" this idea and to make hunting defensible, we must develop a better hunting ethic among all sportsmen. We must live exemplary lives as hunters and sportsmen so that we can prove to the non-hunters and anti-hunters that their impressions should be changed.

We must see that the anti-hunting public attitude is replaced by a wholesome appreciation of the fact that hunting is an integral part of the development of the whole human race and that hunting can play an important role in the development of individuals in the 20th Century.

In our search for answers I shall explore the origin of our hunting endeavors. Hunting as a behavorial pattern has been with man from the earliest record of the hominid 14.5 million years ago. Most anthropologists tell us that it was hunting and the availability of the meat diet that enabled man to separate from and surpass the vegetarians of the ape family. They also suggest that man has come up the ladder through stimulation, excitement and identity. In other words, through adventure.

In "The Social Contract" Robert Ardrey says, "Adventure may or may not have been the motive that began the human way. Whatever it was that set us on our course, we found our daily satisfaction in violence for too many menacing millions of years. We attacked or we starved. We dared or we were selected out. We adapted, anatomically and physiologically, to the hunt. Our muscular buttocks, unlike those of any other primates, provided us with the strength to throw, to stab, to crush. Our flattened feet provided speed and endurance in the chase. Glands that once directed the timid primate to flee rearranged their chemistry to direct the hominid to attack. We became creatures adapted in all ways to the excitements of violent action. Until five thousand years ago there was no other way to survive. And if it was only then that organized warfare became a significant human entertainment, perhaps we may understand it as a substitute for the lost hunting way."

Robin Fox and Lionel Tiger, two contemporary anthropologists, have very recently written a book entitled *The Imperial Animal* which supports Ardrey's observation. They observed that "man the hunter" is not an episode in our distant past; we are still man the hunter, incarcerated, domesticated, polluted, crowded and bemused. We are wired for hunting—for the emotions, the excitements, the curiousities, the regularities, the fears and the social relationships that were needed to survive in the hunting way of life.

Let's return now to our more mundane problem of hunting on the public lands—that is the federal public lands. Historically, the federal land management agencies have managed the habitat on public lands and state wildlife agencies have managed the

fish and resident wildlife. Several attempts before Congress to delineate these areas of responsibility and authority have received some support but have failed to reach final approval. A test of state authority came in the recent Carlsbad Deer Case between the State of New Mexico and U.S. Department of Interior, involving the alleged illegal killing of deer by the federal government at Carlsbad Caverns National Monument. The state lost this case in a hearing before the 10th Circuit Court of Appeals in Denver. However, in this case, the Court carefully avoided addressing itself to the basic question of who owns and controls the taking of wildlife.

Realizing that some type of policy was needed to avoid future confrontations with the Department of Interior, the International Association of Game, Fish and Conservation Commissioners worked with then Secretary of Interior Walter Hickel and Assistant Secretary Leslie Glasgow to draft a federal regulation that was mutually acceptable to the states and the federal government. This regulation, issued on Sept. 10, 1970, said among other things, that hunting and fishing on Department of Interior lands should be done " . . . . . within applicable state laws, including the requirements for the possession of appropriate state licenses or permits."

About the same time, the Public Land Law Review Commission (PLLRC), in its final report to the Congress and the President, found fault with discriminatory license fees and non-fee regulations concerning non-resident hunters and fishermen using the public lands. Several bills were soon introduced in Congress to implement such a fee.

Looking at all these factors and some I don't have time to present, one can only conclude there is a strong movement to have the federal government take over licensing and management of fish and wildlife on public lands if not all lands in this nation.

After carefully examining the PLLRC report, it became apparent that the states, and particularly the "public land states", had been discriminating against the non-resident sportsman in a manner which could be considered unreasonable by many. Since the PLLRC report concluded that some discrimination was reasonable, the problem then becomes: What is "reasonable"?

As wildlife habitat and its wildlife resources diminish and the demand for these resources increases, I suppose it is only natural for citizens of a state to take the attitude that such resources should be reserved for residents of the state and participation by nonresidents severely curtailed or eliminated. Such a position might be more defensible for non-public land states than for public land states, but responsible leaders should not sit back and let resident sportsmen lose their perspective. A public relations campaign is needed that will give every resident sportsman a comprehensive understanding of the consequences if we fail to support individual state decisions made to resolve this dilemma.

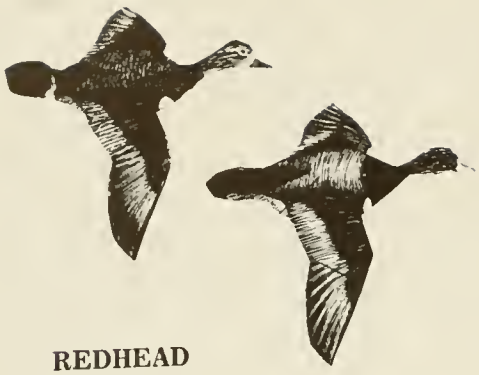
Somehow, someway I hope this country will develop an inspired sportsman public that won't let itself be exploited; a sportsman public that blackballs the slob; a sportsman public that closes ranks on the resident-nonresident issue; a sportsman public that will stand up to the nation and tell it like it is—that habitat and environment are the key to perpetuation of all species and hunting is frequently needed to preserve the environment from an overpopulation of animals. We must show that hunting is humane and that death by hunting is more desirable than starvation or natural mortality.

We must show that sport hunting is a wholesome and relaxing activity, and that hunting can take young people out of the pads and the communes, redirecting the strong physical efforts of those who might riot and destroy. We must see that the general public gives the hunter credit for his pioneering work in the environmental crusade. The public must be made to understand that the hunters' license dollars are responsible for practically all of the environmental preservation that has taken place up to the present time.

We must get off the defensive and onto the positive approach. Hopefully, by our own good conduct, we can convince the public and the media that this is less a political issue and more a moral issue. The media must understand that they can better serve humanity by promoting sportsmanship and hunting. By so doing they can improve the environment and habitat for all species —including man.

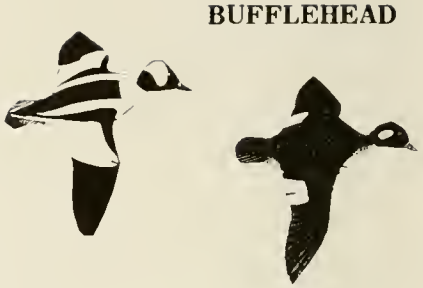
In summary, let us preach to the world that hunting is a good word, that hunting is a part of the human life, that hunting can serve as a wholesome outlet to human energy and emotion, that hunting is needed to maintain a balance of nature, and above all, that hunters are high-type people. We hunters must be united and must be willing to work together to pursue our viewpoint and win over our opponents. We must improve our sporting ethics until the world can look upon all of us as sincere humanists. We must do this to maintain the sport of hunting.

If we are not willing to clean up our own ranks, if we are not willing to give the nonresident a reasonable chance to hunt on the federal lands, if we are not willing to individually and collectively campaign to reverse the anti-hunting trend, if we just want to sit back and "let George do it," then we must be prepared to recognize that closing time is close at hand for hunting.



REDHEAD

BUFFLEHEAD



Know Your Ducks?

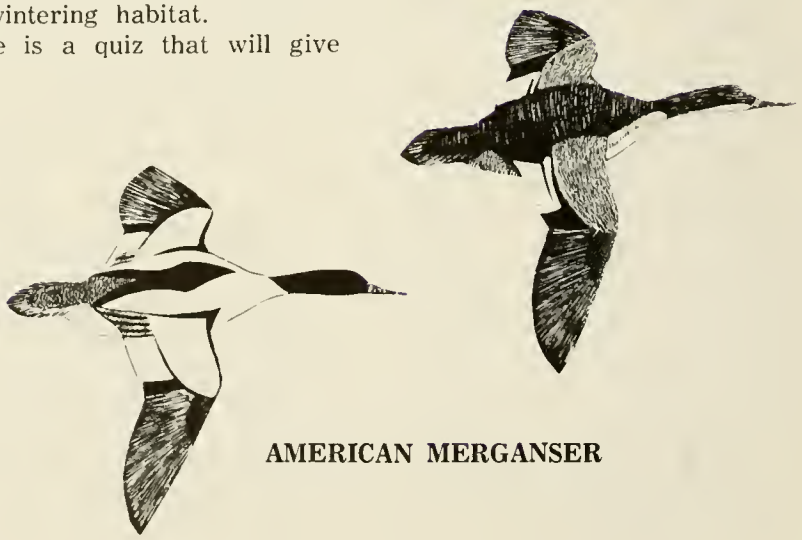
by Ken Walcheck

Can you match the right duck with the correct description?

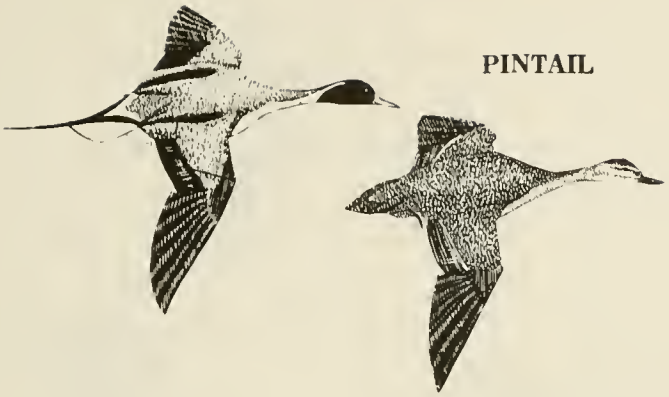
The nature buff with the greatest appreciation for the outdoors usually knows the most about his environment. An increased knowledge of waterfowl, for example, gives the waterfowler a better chance of bagging his limit. And helps him realize that civilization is the strongest competitor for land and water ducks need. If we want waterfowl in the future, we must maintain suitable breeding and wintering habitat.

Here is a quiz that will give

BLUE-WINGED TEAL



AMERICAN MERGANSER



PINTAIL

you some idea of how much you know about waterfowl. Can you identify these ducks?

1. This duck ranks first in the Montana hunter's bag and comprises 65-75 per cent of the duck harvest.

RUDDY DUCK

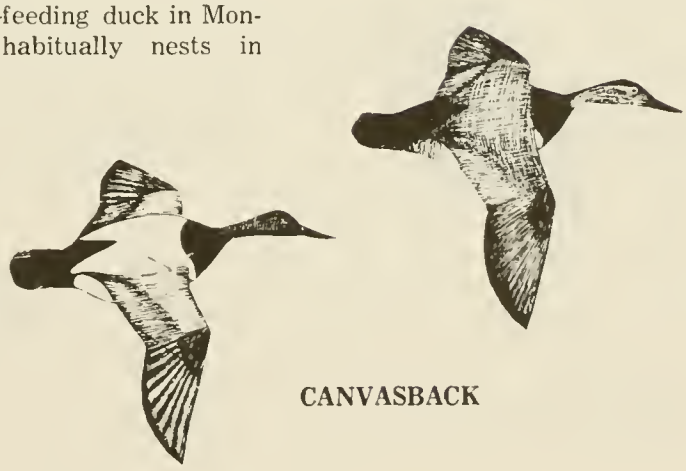
2. Considered "king" of the diving ducks by most hunters. This duck is highly esteemed as a table bird and considered the fastest of all North American waterfowl with maximum speed at about 70 miles per hour.

3. If you heard a distinct me-ow coming from your favorite hunting pond, what duck would you say it was?

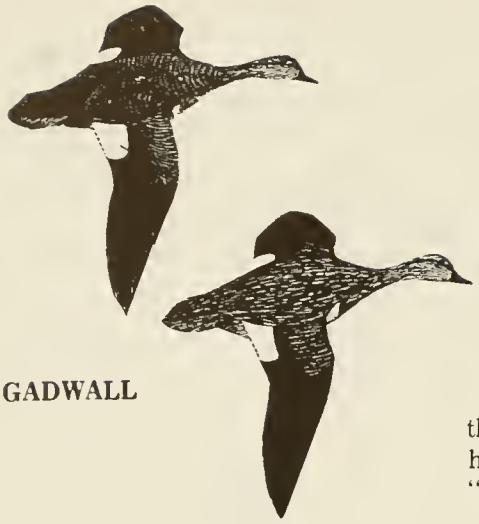
MALLARD

4. Which duck would be more properly named "ring-billed duck"?

5. This drake is probably the handsomest of all waterfowl. It frequents wooded river bottoms and forested streams and is the only surface-feeding duck in Montana that habitually nests in trees.



CANVASBACK



GADWALL

6. The whistling sound made by this duck's rapidly beating wings has earned him the nickname "whistler".

7. This duck is sometimes called "spoon-bill" because its oversized bill is wider at the bottom and rounded to resemble a spoon.

8. This surface-feeding duck is sometimes labeled "poucher" because it steals aquatic plants from redheads and canvasbacks as they swim to the surface.

9. This small duck has a white, crescant-shaped patch in front of the eye and a blue patch on the fore wing. Flies in well-bunched flocks that turn together like pigeons.

10. Known as "greyhound" to some because of its racy lines and rapid flight. Flocks of this species have a habit of descending in a zig-zagged path. Special features are a needle-like tail and white neck stripe on the male.

11. This small, compact duck has green wing patches, a vertical white mark on its side in front of each wing and a green patch on its brown head.

GREEN-WINGED TEAL

LESSER SCAUP

AMERICAN WIDGEON

RING-NECKED DUCK

WOOD DUCK

12. A bunch of puddle ducks flush vertically from a small pot-hole. They have a large, white wing patch on the trailing edge of the wing.

13. This small, diving duck was originally called "buffalo head" because of its large head. It is an exception to the rule that diving ducks run along the water's surface to get into the air. Unlike most diving ducks, this one rises directly into the air.

14. This duck is also called "sawbill" or "fish duck" because it has a spike-like bill and sharp, pointed teeth that are tilted backwards. This duck is near the bottom of the desirable-eating list.

15. Through binoculars this duck looks black at both ends and white in the middle. It has a greyish-blue bill.

16. This odd little duck has air sacs in his neck that he can inflate. He inflates the sacs, raises his tail, dips his bill and chuckles before taking off in a beetle-like flight after a female during courtship. The male has red plumage from April to August but otherwise is brown like the female except for white cheeks.

SHOVELLER

COMMON GOLDENEYE

(answers on page 24)

STAR

DOES YOU

Bill broad, typically ducklike

Wing patch gray, nonmetalic or wing uniform in color

Wing patch irridescent blue, purple, green, brown or black or white

Bill without two rings

Bill with two bluish-white rings, one at the base and one near the tip

Female

Male

RING-NECKED DUCK

Wing patch white

Wing pa
green, b

Wing patch brown

PINTAIL

Head flattish, sloping with straight line appearance from forehead to bill

CANVASBACK

Head rounded with angle at forehead and bill

Wing patch blu

White or whitish cheek patch

RUDDY DUCK

Head uniformly reddish or yellowish brown

REDHEAD

Wing patch bordered on both sides with white

Male

Female

MALLARD

White face patch behind eye

Female

Male

BUFFLEHEAD

No white face patch, or if present, in front of eye

Head crested

Female

WOOD DUCK

White wing patch with black or dark feathers in center

White wing patch without black or dark feathers in center

Feet yellow

Feet gray

Female

Male

GADWALL

GOLDENEYE

Male

SCAUP

Florida ducks, mottled duck
can ducks are very similar
These may be separated by
easily than by feather charac

HERE

UCK HAVE

After making the first choice on the top of the page, follow the black lines to secondary choices until the correct identification has been found.

Bill slender, pointed, and toothed

Feet yellow or yellowish gray

Feet pink or reddish

Male

Female

HOODED MERGANSER

COMMON MERGANSER

RED-BREASTED MERGANSER

netalic blue, purple, , or black

Wing patch blue, purple, green or black

purple

Wing patch green or black

Wing patch without white border or white only at feather tips

Blue patch on shoulder of wing

Patch on shoulder of wing not blue

Bill very large and broad, feet orange or coral-red

Bill normal, feet yellow

et yellow

Head not crested, feet orange-red or coral red

/ Male

BLACK DUCK

BLUE-WINGED TEAL

SHOVELER

Shoulder of wing gray or brownish

Shoulder of wing with white patch

Female

Male

Female

Male

GREEN-WINGED TEAL

AMERICAN WIDGEON

d New Mexi- black ducks. cations more tics.

Florida Duck

Cinnamon teal is similar to blue-wing teal except that male cinnamon teal is reddish on head and underparts. The female is virtually identical to the female blue-wing teal.

Female American widgeon has brown breast and flank. Female green-wing teal has gray speckled breast and flank.

CLASSROOM CONSERVATION

BASIC CONSERVATION FOR THE YOUNG CONSERVATIONIST

WILDLIFE MANAGEMENT

-it's not simple-

The **density** of deer has been high in some areas, but **limiting factors** reduced numbers to the **carrying capacity** of the **habitat.** Because of their **breeding potential,** deer numbers sometimes increase beyond the capacity of the habitat to support them.

The normal reaction to these statements is "Whad he say, Whad he say?" Every profession uses its own language and wildlife management is no exception. Terms commonly used by wildlife professionals sometimes confuse people.

Animals—whether they fly, swim or run—exist only where the things they need exist. It is not always apparent, just by looking at a lake or stream or piece of land, why an area, or habitat, supports the wildlife it does. Although no one asks why zebras don't range over eastern Montana prairies or tigers stalk the forests of western Montana, few people can explain why they don't. Many people wonder why the more familiar deer and elk are not present or more abundant in some parts of the state. The reasons are the same—no animal exists or survives unless the habitat is suitable. Furthermore the habitat determines the number of animals of any species that lives in any given area.

In every judgement he makes, the biologist uses a characteristic of habitat called carrying capacity. This is the ability of an area to support a given number of animals at a given time. A square mile of Missouri River Breaks may support twenty mule deer during summer but during winter when the green, weedy and nutritious plants of summer disappear, the same square mile might support only fifteen mulies. An increase over the carrying capacity can create several adverse effects. The most important involves damage to the habitat caused by too many mouths for too long a time. Other effects include poor animal condition, starvation, disease and an actual reduction in breeding potential. The habitat provides only so much food and cover and supports only so much life. Good habitats consistently support high wildlife numbers. Poor habitats support few animals. To the hunter, poor habitat means poor hunting.

Density means the number of animals present on a certain sized area. One deer per one hundred acres might seem disirable, but twenty deer per one hundred acres would mean an unstable situation with density exceeding carrying capacity.

Ponderosa pine is a starvation diet for deer. Its use means a shortage of winter range. In addition, this pine has been severely overbrowsed. (F&G photo by John Cada)

Managing wildlife isn't easy. Specialists try to balance the land and the game it can support. Many factors affect that balance, things like available food, water and shelter and the animal's breeding potential. (F&G photo by Robert Rothweiler)

Animals numbers fluctuate according to the dictates of the habitat, expanding or decreasing as the habitat improves or deteriorates. When a habitat is stocked beyond carrying capacity, all trends are toward reduction of animal numbers and habitat degradation. Where animal density is below capacity (which seldom happens), the trend is toward an increase in animal numbers. Most generally, no matter what the species, numbers push the upper limit of the carrying capacity most of the time. Animal density creates a misunderstanding between hunters and wildlife managers. An increase in animal numbers beyond the carrying capacity is considered ideal by many hunters, but in reality, this represents an unstable, temporary and unwanted condition.

A **limiting factor** is anything which affects the carrying capacity. As a result, such factors also affect density. Suppose we think the carrying capacity of one hundred acres of land is ten deer. If we find only one deer in the area, we know limiting factors are at work. In this case, then, the carrying capacity is really only one deer. Food and cover are generally the major limiting factors.

Breeding potential is the physical capacity to produce young, related to the dictates of the environment. When the habitat is full, the maximum breeding potential is not realized because there simply is no room for more animals. When the habitat is empty, maximum breeding potential can be realized.

Game managers must consider all these factors when they manage habitat for wildlife. Land stays healthy if it raises just as many animals as the food, water and shelter will support without damage. If the habitat starts going down-hill, either the carrying capacity has been exceeded, or the habitat affected in some other way. If this results from too many animals, a greater harvest is needed. If animals are not taken through hunting, their numbers will decrease in some other way to fit the carrying capacity of the habitat.

With some species, too many simply means that the excess will die, but consequences are more serious for large, herbivorous (plant-eating) animals like deer, elk and moose. They can destroy food supplies to such an extent that it takes many years with few or no animals to repair the damage.

For all wildlife species, food, water and shelter (habitat) are basic needs. The game manager must also consider carrying capacity, density, breeding potential and limiting factors. In all cases, the game manager tries to maintain as many animals as possible.—Robert Rothweiler

suggested project

Pick an animal in your area. List the limiting factors that affect that animal's existence and try to determine which does the most to hold down the overall population.

Camp Baker, on the Smith River. Now, only a few logs remain. (F&G photo by Dick Ellis)

Camp Baker

by Dick Ellis

ONE OF THE older fishing access sites in Montana in terms of recreational use is undoubtedly the Camp Baker site on the Smith River, some 25 miles northwest of White Sulphur Springs.

This site is directly adjacent to one of Montana's early military posts, built in 1869 at the insistence of the civilian population in and around Diamond City. Camp Baker, first built as an outpost to Fort Ellis near Bozeman, never really saw any action other than the routine duty of escorting freighters and providing temporary headquarters for military patrols, escorts and survey parties.

For the soldiers stationed there, life must have often been extremely dull, and it is likely many an off-duty hour was spent fishing the waters of the Smith River, flowing a few hundred yards from the camp.

Since these post-civil war days, the site has seen relatively little activity, and almost nothing remains of the original Camp Baker. A few crumbling logs are the only reminders of a once bustling military establishment.

In 1971, the Montana Department of Fish and Game purchased 50 acres of land directly downstream from the old Camp Baker site and about seven miles downstream from the Smith River Fishing Access Site. As funds become available for construction, an access road, sanitary facilities and directional signs will be added. Then, the river adjacent to the site will be frequented by part of another army—recreationists seeking rest and relaxation and hoping for battle with nothing more formidable than big trout.

The historically minded recreationists will be interested to know that the original Camp Baker was moved 10 miles upstream and later renamed Fort Logan. Many of the original buildings at the Fort Logan site are still standing, including an original block house in excellent condition. Visitors should remember that the site is on private land.

MONTANA FLORA

AND WHAT IT MEANS TO WILDLIFE

Montana Corn

A beautfiul fall scene for humans fades into a beautiful winter scene for upland game birds if several rows of corn are left unharvested and unburned. Good habitat for upland game birds consists of cover (brush and weeds) and food. Furthermore, these two necessities should be in close proximity.

Unharvested rows of wheat, barley or oats left next to patches of cover will also provide winter habitat requirements for upland game birds and in some cases, waterfowl.

Undoubtedly cultivated corn (maize) is the Indian's greatest contribution to the world's food resources. Although maize was cultivated extensively throughout North America, it is thought to have originated in Mexico.

Instead of smothering all those corn cobs with butter or using them for sileage, why not leave a few for game birds this fall?—*Harley Yeager*

HUNTER ORANGE

Will the "new" safe color eliminate visibility–connected hunting fatalities in Montana?

BY MEL WOJCIK

BIG GAME HUNTERS in Montana have traditionally worn red hunting garments. The 1936 legislature passed a law requiring big game hunters to wear a cap or hat, shirt, jacket, coat or sweater of bright red color. This law was amended in 1960 to allow orange or yellow as an acceptable hunting color. Most of the hunters continued to wear red and the favorite seemed to be the red and black checked jacket. Any time you were out in the hills, you could see hunters sneaking around in their red and black jackets. Or could you? Maybe you were in an area where there weren't too many other hunters. But then again, the hunters might have been there and you just couldn't see them.

This year, if you intend to hunt big game animals in Montana or accompany anyone as a guide or outfitter, you must wear not less than 400 square inches of daylight fluorescent orange material as an exterior garment. This law became effective May 1, 1972. The only exception is archers hunting in archery-only areas. How much is 400 square inches? A piece of material 20 inches by

Much of the information in this article was obtained from a study conducted by the Maine Department of Inland Fisheries and Game. In addition, many technical writings were consulted as well as experts in the field of vision in mammals.

20 inches is 400 square inches. A vest would adequately fulfill the size requirement.

Red is no longer the traditional, "safe" color. Extensive studies have proven that. In fact, in years to come we won't even have red fire engines. They will all be painted lemon yellow. Each new study emphasizes fluorescent orange as the safest color. The old standby—red—is, in fact, one of the poorest colors to be wearing when afield.

One of the most dramatic studies supporting the fluorescent orange theory was conducted in Maine from 1959 to 1970. Maine is divided into three distinct regions: the southern area, heavily populated with woodlands broken by roads and power lines; the central area, with larger wilderness tracts broken by small towns, cities and highways; and the northern area, a vast wilderness.

In 1967, a color law was passed for approximately one-third of the State of Maine, in the central and southern sectors or more populated areas. The law was very lenient in that it simply required that any hunter using a firearm during the deer hunting season wear hunter orange clothing, visible from all sides.

To test the effectiveness of this new law, a ten-year survey of hunting mishaps was conducted in the area covered by the law. It was found that 7.25 visibility-connected hunting mishaps occurred yearly from 1959 to 1969. During the four years of the test, the average dropped to 3.25, a reduction of 55 per cent. It was also noted that in most of the mishaps, the victim was only wearing a hunter orange hat in either thick growth or on dark or foggy days.

Projecting these figures to the entire state, it might have been possible to prevent 16.25 visibility-connected accidents yearly if the entire state had a fluorescent orange requirement.

A similar study conducted in Massachusetts showed that hunting accidents dropped 67 per cent when hunters were required to wear fluorescent orange apparel during the deer season. Visibility-connected fatalities are becoming tragedies of the past.

What makes fluorescent orange so outstanding? Why are yellow and the traditional red falling by the wayside? By definition "hunter orange" means a daylight flourescent orange color with a dominant wave length between 595 and 605 nanometers, with an excitation purity of not less than 85 per cent and a luminance factor of not less than 40 per cent. Those figures may not mean much, but when all of these factors are combined, the result is a fluorescent orange color. The color emits a magnified quantity of light from a smaller light source—it fluoresces.

The very composition of this color gives it at least three definite advantages over yellow and red. Fluorescent orange does not occur in nature. Some birds may be orange, but their color cannot compare with that of fluorescent orange.

During the crucial hours of dawn and dusk when most hunting accident occur, the color stands out. While red tends to appear brownish and even black during twilight, fluorescent orange retains its color.

And it is helpful to the colorblind. At least 175,000 people hunted in Montana last year. About

"Hunter orange" may make visibility-connected hunting fatalities a thing of the past because it can be more easily seen for long distances. This photo sequence dramatizes that point. At distances of 10 and 25 feet, all three colors are visible. At 50 yards the red and yellow lose brilliance and at 100 yards orange is the only color visible against the shady background.

HUNTER ORANGE continued

1/17 or 10,000 of these hunters were women. Eight per cent of the male population and one-half of one per cent of the female population are red-green color blind. Figuring the percentages for these hunters, approximately 13,250 Montana hunters were running around last year with some degree of red-green color blindness. A red jacket might appear differently to these people—possibly even brown like a deer. Fluorescent orange, however, remains brilliant and stands out for these individuals.

A certain group of people approach hunting safety in a completely opposite manner. They theorize that if you wear green or camouflage clothing, other hunters will not be able to see you. Therefore, you are less likely to be shot. They also think camo-clothing is far superior for sneaking up on big game animals. These people are grossly mistaken on both points. Their first approach could be compared with preventing crime by abolishing all firearms—a completely negative approach. Don't forget hunters sometimes shoot at sounds in the brush. If you are camouflaged but make a noise, it would seem your chances of not being shot are greatly reduced if you are wearing dark green or brown.

And we tend to think big game animals are similar to humans. We automatically think big game animals can perceive colors, like humans. The human eye and the eye of a deer are similar in structure, but the difference is in the structure of the retina. The retina is a sensitive membrane which receives the images formed by the lens and transfers this image to the brain by means of the optic nerve. In the human, the retina is made up of rods (rod-shaped cells) which are responsive to faint light and cones (cone-shaped cells) which are responsive to colors. The eye of a deer doesn't have cones in its retina and therefore can only distinguish shades of gray.

Psychophysical and physiological studies of how big game animals react to certain colors have not been performed. One can only guess what flourescent orange looks like to the big game animals, probably brilliant white. This is only a guess. But anything that is not natural makes game animals uneasy. A solid color vest of flourescent orange, or even red or yellow, would appear unnatural to a deer. If you break up the solid outline by painting or patching uneven strips of a dark color material to your fluorescent orange clothing, you would still be within the limit of the law, providing 400 square inches of fluorescent orange are visible. You could still be seen by your fellow hunters, but deer or elk would have a tough time making you out. I firmly believe movement, smell and blockiness of clothing spook big game animals, not color.

So this fall when you are glassing that hillside or tracking that 5-point bull, keep your eyes open for your fellow hunter. He should be easier to see this year. Remember, hunting is a sport and safety comes first; it is not a life or death matter to get game, unless you make it that way.

Mel Wojcik is the department's Hunter Safety Coordinator. He also spent two summers as Educational Representative for summer youth programs and the fair circuit. Wojcik, 25, has a Bachelor of Arts degree in zoology from the University of Montana, Missoula. He is Region 1 Director of the North American Association of Hunter Safety and serves on that Board of Directors.

wildlife shorts

Birds have the highest body temperature of all living creatures—104-110F°.

* * *

Great polar bears, often weighing 1,100 pounds, swim only with their front legs. Hind legs trail behind and remain motionless. However, this doesn't seem to hamper the bears' travels. They have been observed as far as 80 miles out to sea.

Seasickness is not unique to humans. Fish also get seasick when left to the mercy of the waves for long periods of time.

* * *

All spiders are carnivorous and venomous.

* * *

Unlike most turtles, the snapper can't pull its head, legs and tail into its shell.

* * *

A small spotted octopus (only four inches across) found in Australian waters has a venom so powerful that it can kill a man in 8-10 minutes.

The reproductive potential of some animals borders on the incredible. For example, one pair of deer can increase to 5,000 in 21 years, one pair of cottontails can increase to 5,000 in four years, and one pair of mice can increase to one million in one year. These population explosions are, of course, in situations completely free of competition and limiting factors.

* * *

The age of a deer, elk or moose cannot be accurately tabulated by counting the points on each antler.

EDITOR'S NOTE: Since poorly planned developments and political finagling are indeed realities in Montana, as they were in the 19th century, we thought our readers would be interested in this book review. It's from an 1882 play by Henrik Johan Ibsen, entitled "The Enemy of the People." We think Ibsen's words and logic can easily be applied to many modern situations. Special thanks to the ENVIRONMENT magazine and editor Sheldon Novick for allowing us to reprint this.

Déjà Vu

AN ENEMY OF THE PEOPLE
Henrik Johan Ibsen, 1882
in FOUR PLAYS BY IBSEN
Edited by Clarence Strutter
Modern Literature Series
Ginn and Company, 1931

The environment, of course, is not new. Nor, for that matter, is its pollution. We are apt to forget this fact, caught up as we are in the upward spiral of charge and countercharge about DDT, PCBs, mercury, nitrates, smog. . . . We feel as if we are struggling with a whole new set of problems that is unique to our time. Very real moral, economic, political, legal, and social dilemmas surface with the profound implication of each new environmental pollutant. Each of us from his own particular vantage point sees the problem—both consequences and solutions—with imperfect vision. Should we or should we not ban DDT—from the U.S.—from the nations of hungry millions? Dare we hold back the development of nuclear energy for our nation as energy demands increase almost vertically upward? Will the problems of radiation leakage, radioactive waste disposal, thermal pollution of the waterways, and heavy metal and synthetic chemical contamination of food chains let loose a series of consequences incapable of solution?

With these problems comes a whole set of personalities: the environmentalist, the industrial polluter, the environmental lawyer, the politician with moderate solutions and many others. They are all wedged in the dilemma that balances economic against ecological destruction both now and in the unseen future. Name-calling voices seek the stage: "a new breed of criminal," "hysterical," "short-sighted," "prophets of doom," "irresponsible." But the problem is not new. The cast of characters was sharply drawn in 1882 by the great playwright Henrik Ibsen in AN ENEMY OF THE PEOPLE. With proper recognition of individual characteristics we are all there.

The story of AN ENEMY OF THE PEOPLE is straightforward. A small Norwegian town had recently built an extensive system of Baths to attract visitors. The venture had proven highly successful:

Burgomaster (Peter Stockmann, the doctor's elder brother Burgomaster and Chief of Police, Chairman of the Committee, etc. . . .): How marvelously the place has developed even in this couple of years! Money has come into circulation and brought life and movement with it. Houses and groundrents rise every day.

Hovstat (Editor of the "People's Messenger"): And there will be fewer people out of work.

Burgomaster: That is true. There will be a gratifying dimunition in the burden imposed on the well-to-do classes by the taxes for the poor, and they will be still further lightened if only we have a really good summer this year—a rush of visitors—plenty of invalids, to give the town a reputation.

Dr. Stockmann, a medical officer of the Baths, discovers the waters to be contaminated by waste from a tannery. The doctor is, at first, praised by the townspeople because a potential disaster seems to have been averted. Hundreds of vacationing visitors would have been stricken.

Horster (a ship's captain): [clinking glasses with the doctor]: I hope you may have nothing but joy of your discovery.

Dr. Stockmann: Thanks, thanks, my dear friends! I can't tell you how happy I am! Oh, what a blessing it is to feel that you have deserved well of your native town and your fellow citizens. Hurrah, Katrina!

But then, as now, life is not that simple. There are, of course, complications. Other things to think about.

Burgomaster: As usual, you used very strong expressions in your statement. Amongst other things, you say that what we offer our visitors is a slow poison.

Dr. Stockmann: Why, Peter, what else can it be called? Only think—poisoned water both internally and externally! And that to poor invalids who come to us in all confidence, and pay us handsomely to cure them!

Burgomaster: And then you announce as your conclusion that we must build a sewer to carry off the alleged impurities from the Mill Dale, and must re-lay all the water pipes.

Dr. Stockmann: Yes. Can you suggest any other plan? I know of none.

Burgomaster: I found a pretext for looking in at the town engineer's this morning, and—in a half-jesting way—I mentioned these alterations as things we might possibly have to consider, at some future time.

Dr. Stockmann: At some future time!

Burgomaster: Of course he smiled at what he thought my extravagance. Have you taken the trouble to think what your proposed alterations would cost? From what the engineer said, I gathered that the expenses would probably mount up to several hundred thousand crowns.

Dr. Stockmann: So much as that?

Burgomaster: Yes. But that is not the worst. The work would take at least two years.

Dr. Stockmann: Two years! Do you mean to say two whole years?

Burgomaster: At least. And what are we to do with the Baths in the meanwhile? Are we to close them? We should have no alternative. Do you think anyone would come here, if it got abroad that the water was pestilential?

Dr. Stockmann: But, Peter, that's precisely what it is.

Burgomaster: And all this now, just now, when the Baths are doing so well! Neighboring towns, too, are not without their claims to rank as health-resorts. Do you think they would not at once set to work to divert the full stream of visitors to themselves? Undoubtedly they would; and we should be left stranded. We should probably have to give up the whole costly undertaking; and so you would have ruined your native town.

Dr. Stockmann: I—ruined—!

Reprinted by permission from the March issue of the magazine ENVIRONMENT, a publication of the Committee for Environmental Information. For further information, write ENVIRONMENT, 438 N. Skinker Blvd., St. Louis, MO 63130.

Burgomaster: It is only through the Baths that the town has any future worth speaking of. You surely know that as well as I do.

Dr. Stockmann: Then what do you think should be done?

Burgomaster: I have not succeeded in convincing myself that the condition of the water at the Baths is as serious as your statement represents.

Dr. Stockmann: I tell you it's if anything worse—or will be in the summer when the hot weather sets in.

Burgomaster: I repeat that I believe you exaggerate greatly. A competent physician should know what measures to take—he should be able to obviate deleterious influences and to counteract them in case they should make themselves unmistakably felt.

Dr. Stockmann: Indeed—? And then—?

Burgomaster: The existing waterworks are, once for all, a fact, and must naturally be treated as such. But when the time comes, the Directors will probably not be indisposed to consider whether it may not be possible, without unreasonable pecuniary sacrifices, to introduce certain improvements.

Dr. Stockmann: And do you imagine I could ever be a party to such dishonesty?

Burgomaster: Dishonesty?

Dr. Stockmann: Yes, it would be dishonesty—a fraud, a lie, an absolute crime against the public, against society, as a whole!

Burgomaster: I have not, as I before remarked, been able to convince myself that there is really any such imminent danger.

Dr. Stockmann: You have! You must have! I know that my demonstration is absolutely clear and convincing. And you understand it perfectly, Peter, only you won't admit it. It was you who insisted that both the Bathbuildings and the waterworks should be placed where they now are; and it's *that*—it's that damned blunder you won't confess. Pshaw! Do you think I don't see through you?

Burgomaster: And even if it were so? If I do watch over my reputation with a certain anxiety, I do it for the good of the town. Without moral authority I cannot guide and direct affairs in the way I consider most conducive to the general welfare. Therefore—and on various other grounds—it is of great moment to me that your statement should not be submitted to the Board of Directors. It must be kept back, for the good of the community. Later on I will bring up the matter for discussion, and we will do the best we can, quietly; but not a word, not a whisper of this unfortunate business must come to the public ears.

Indeed, the problem is not an easy one.

Burgomaster: As you have not had the sense to refrain from chattering to outsiders about this delicate business, which should have been kept an official secret, of course it cannot now be hushed up. All sorts of rumors will get abroad, and evil-disposed persons will invent all sorts of additions to them. It will therefore be necessary for you publicly to contradict these rumors.

Dr. Stockmann: I! How? I don't understand you!

Burgomaster: We expect that, after further investigation, you will come to the conclusion that the affair is not nearly so serious or so pressing as you had at first imagined.

Dr. Stockmann: Aha! So you expect that?

Burgomaster: Furthermore, we expect you to express your confidence that the Board of Directors will thoroughly and conscientiously carry out all measures for the remedying of any possible defects.

Dr. Stockmann: Yes, but that you'll never be able to do, so long as you go on tinkering and patching. I tell you that, Peter; and it's my deepest, sincerest conviction—

Burgomaster: As an official, you have no right to hold any individual conviction.

Dr. Stockmann: [Starting] No right to—?

Burgomaster: As an official, I say. In your private capacity, it is another matter. But as a subordinate official of the Baths, you have no right to express any conviction at issue with that of your superiors.

Dr. Stockmann: This is too much! I, a doctor, a man of science, have no right to—!

Burgomaster: The matter in question is not a purely scientific one; it is a complex affair; it has both a technical and an economic side.

Wounded, Dr. Stockmann lashes out, expanding his plan to include a broader assault on the establishment. Words of caution intervene.

Aslaksen: And if only we proceed with moderation, I really don't think there can be any danger.

Dr. Stockmann: Who the devil cares whether there's danger or not! What I do, I do in the name of truth and for conscience's sake.

Following the doctor's departure from the stage, Hovstad, Billing (on the staff of the paper) and Aslaksen (a printer) inevitably expand their conversational horizons.

Hovstad: He will be invaluable to us.

Aslaksen: Yes, so long as he confines himself to this matter of the Baths. But if he goes further, it will scarcely be advisable to follow him.

Hovstad: H'm. That entirely depends on—

Billing: You're always so confoundly timid, Aslaksen.

Aslaksen: Timid? Yes, when it's a question of attacking local authorities, I *am* timid, Mr. Billing; I have learnt caution in the school of experience, let me tell you. But start me on the higher politics, confront me with the Government itself, and then see if I'm timid.

Billing: No, you're not; but that's just where your inconsistency comes in.

Aslaksen: The fact is, I am keenly alive to my responsibilities. If you attack the Government, you at least do society no harm; for the men attacked don't care a straw, you see—they stay where they are all the same. But *local* authorities can be turned out; and then we might get some incompetent set into power, to the irreparable injury of both house-owners and other people.

Hovstad: But the education of citizens by self-government—do you ever think of that?

Aslaksen: When a man has solid interest to protect, he can't think of everything, Mr. Hovstad.

Not only must the doctor consider his responsibilities—so also the townspeople, so eager to praise him as a public benefactor, must awaken to the consequences of the discovery.

Burgomaster: And assuredly it is no small sacrifice the town will have to make.

Hovstad: The town?

Aslaksen: But I don't understand—. It's the Baths—

Burgomaster: At a rough provisional estimate, the alterations the doctor thinks desirable will come to two or three hundred thousand crowns.

Aslaksen: That's a lot of money; but—

Burgomaster: Of course we shall be obliged to raise a municipal loan.

Hovstad: [Rising] You surely can't mean that the town—?

Aslaksen: Would you come upon the taxes? Upon the scanty savings of the lower middle-class?

Burgomaster: Why, my dear Mr. Aslaksen, where else are the funds to come from?

Aslaksen: The proprietors of the Baths must see to that.

Burgomaster: The proprietors are not in a position to go to any further expense.

Aslaksen: Are you quite sure of that, Burgomaster?

Burgomaster: I have positive information. So if these extensive alterations are called for, the town itself will have to bear the cost.

Aslaksen: Oh, plague take it all—I beg your pardon!—but this is quite another matter, Mr. Hovstad.

Hovstad: Yes, it certainly is.

Burgomaster: The worst of it is that we shall be obliged to close the establishment for a couple of years.

Hovstad: To close it? Completely?

Aslaksen: For two years!

Burgomaster: Yes, the work will require that time—at least.

Aslaksen: But, damn it all! We can't stand

on that, Burgomaster. What are we house-owners to live on in the meantime?

Burgomaster: It's extremely difficult to say, Mr. Aslaksen. But what would you have us do? Do you think a single visitor will come here if we go about making them fancy that the water is poisoned, that the place is pestilential, that the whole town—

Aslaksen: And it's all nothing but fancy?

Burgomaster: With the best will in the world, I have failed to convince myself that it is anything else.

Aslaksen: In that case it's simply inexcusable of Dr. Stockmann—I beg your pardon, Burgomaster, but—

Burgomaster: I'm sorry to say you are only speaking the truth, Mr. Aslaksen. Unfortunately, my brother has always been noted for his rashness.

Aslaksen: And yet you want to back him up in this, Mr. Hovstad!

Hovstad: But who could possibly imagine that—?

Burgomaster: I have drawn up a short statement of the facts, as they appear from a sober-minded standpoint; and I have intimated that any drawbacks that may possibly exist can no doubt be remedied by measures compatible with the finances of the Baths.

In short order the townspeople, caught in the cross tide of events, turn against the doctor who now, standing alone, desperately seeks to strengthen his grip—and in so doing loosens it.

Dr. Stockmann: [Flaring up] Then I shall proclaim the truth at every street corner! I shall write to newspapers in other towns! The whole country shall know how matters stand here!

Hovstad: It almost seems as if the Doctor's object were to ruin the town.

Dr. Stockmann: Yes, so well do I love my native town that I would rather ruin it than see it flourishing upon a lie.

Aslaksen: That's plain speaking.

[Noise and whistling. MRS. STOCKMANN coughs in vain; the DOCTOR no longer heeds her.]

Hovstad: [Shouting amid the tumult] The man who would ruin a whole community must be an enemy to his fellow citizens!

Dr. Stockmann: [With growing excitement] What does it matter if a lying community is ruined! Let it be leveled to the ground, say I! All men who live upon a lie ought to be exterminated like vermin! You'll end by poisoning the whole country; you'll bring it to such a pass that the whole country will deserve to perish. And if ever it comes to that, I shall say, from the bottom of my heart; Perish the country! Perish all its people!

A Man: [In the crowd] Why, he talks like a regular enemy of the people!

Billing: Strike me dead but there spoke the people's voice!

The Whole Assembly: [Shouting] Yes! yes! yes! He's an enemy of the people! He hates his country! He hates the whole people!

Aslaksen: Both as a citizen of this town and as a human being, I am deeply shocked at what it has been my lot to hear tonight. Dr. Stockmann has unmasked himself in a manner I should never have dreamed of. I must reluctantly subscribe to the opinion just expressed by some estimable citizens; and I think we ought to formulate this opinion in a resolution. I therefore beg to move. "That this meeting declares the medical officer of the Baths, Dr. Thomas Stockmann, to be an enemy of the people."

There is much, much more to this extraordinary play. Ibsen drew the plot of AN ENEMY OF THE PEOPLE from two actual incidents. In one, a German doctor, after making public the knowledge that a cholera outbreak had occurred at a spa, was held responsible for ruining the season. He was stoned and forced to flee town by the enraged citizenry. The problems remain remarkably similar to our day, and the solutions may be only slightly less dramatic.

Recently the J. K. O'Donnell Woolens of Grafton, Massachusetts came under pressure to stop pouring dyes and soapy waste water into the Blackstone River. The textile mill, last in what was a once-thriving mill town, insisted that it could not alter its disposal procedures without incurring bankruptcy. The state then turned to the town, ordering it to vote a ten-million dollar bond issue for a water treatment facility. The town steadfastly refused. The textile maker was cited by federal lawyers under the Refuse Act of 1889. Mr. O'Donnell, unable to comply, will close up shop and move elsewhere. One hundred and sixty employees will be looking for work. Echoes of Ibsen (as quoted in the New York Times, November 14, 1971):

Richard Wall (lawyer for J. K. O'Donnell Woolens): Ecology is here to stay, but you cannot undo in one day the practices of centuries. Remember these mills came to the advantage of the water power in New England. Now to come in and give these men criminal records is destructive of the business climate in the area.

Frederic Kellogg (assistant U.S. Prosecuting Attorney): All this talk about how complex the problem is is as bad as inaction. We cannot wait for the economic solution to come about—we have to have the courage to do what is necessary. We have to face this as a moral question, not an economic one, and we are drawing the lines of morally acceptable conduct.

It's true, we read as we run. As the pace quickens, the stakes get higher and we view the consequences through the ever more fragile eggshell. There is less time to linger over the yet-unfolded book of instructions. We try to force the pages to no avail. The decisions are upon us as they were upon Dr. Stockmann.

Neville Grant
Assistant Professor of Clinical Medicine
Washington University

LIKE THIS MAGAZINE?

Perhaps you would like to order MONTANA OUTDOORS for yourself or a friend. Just fill out this blank and return it with your remittance before Nov. 1, 1972. You won't miss a single issue.

Name ..... total enclosure

Address .....

City ..... State ..... Zip ..... $

☐ 1 year (6 issues) $2 please send a gift card and sign it: ..... ☐ new subscription

☐ 3 years (18 issues) $6 ☐ renewal

please allow five weeks for processing

notes and comment
by Bill Schneider

THE CATCHALL

Wallace and Gun Control

Gov. George Wallace, still hospitalized and facing possible paralysis as a result of an assassination attempt during his campaign for the Democratic presidential nomination, sees in the attack no reason for change in his attitude on handgun controls. "As the governor has repeatedly said, 'Federal laws will keep guns out of the hands of law-abiding citizens, but those who break the law will have them anyway,' " reported Joseph Asbell, public relations director for Gov. Wallace. "That was what the governor said on this score earlier. His attitude has changed not one bit."

"After all," continued Mr. Asbell, "Gov. Wallace had stood firm on this score during earlier years and it is totally unlike a man of his strength of conviction to change his mind because he is himself hurt." To further amplify similar statements on the Wallace beliefs which were made on May 23 during the Oregon primaries by Charles Snider, national director for the Wallace campaign, Mr. Asbell pointed out that the state of Maryland, where the shooting took place, already had on its books one of the toughest concealed weapons laws in the United States.

Assailant Arthur Bremer had clearly violated this law in shooting Gov. Wallace and obviously would have been similarly undeterred by federal law. Also, were it not for failures in the judicial process in his home state of Wisconsin, Bremer would have been in jail in Wisconsin at the time of the shooting, since he had earlier been arrested there on a gun violation.—*National Shooting Sports Foundation*

cost of pollution control

A common ploy of polluters is to publicize the tremendous amount of money their clean-up operations will cost the American public. Many opponents of a better environment have already embarked on such a scare campaign.

However, a well-documented study by the National Wildlife Federation (NWF) has proven the exact opposite to be true. The study team concluded:

1. The American public can have a cleaner environment by 1980 and *save* $12 billion at the same time.
2. With a cleanup campaign that reduces air pollution damages by 66 per cent, your family would *save* $113 annually and another $87 annually by reducing water pollution damages by 90 per cent.

The savings come when you consider the nation's pollution damage costs, which, according to NWF, reach $28.9 billion annually. Subtract the cost of cleanup from the gross annual savings and the result is a whooping net savings of $200 per family per year.

"This is no pipe dream," says Thomas L. Kimball, executive director of the Federation. "It is the sober estimate of responsible environmental experts."

"What an investment opportunity! Where else can you improve the quality of life and save money at the same time?" he asks.

More detailed information on the study can be obtained by referring to the February/March 1972 issue of the Federation's magazine, NATIONAL WILDLIFE, or writing the Federation at 1412 16th St. NW, Washington D. C. 20036.

follow-up on predator poisons

The last issue (July/August 1972) of the MONTANA OUTDOORS featured predators and the controversial animal control issue. We told our readers which toxicants were illegal and why and hopefully, cleared up some misconceptions.

Now, as a follow-up, we suggest you keep a watchful eye and immediately report any unauthorized use of a chemical toxicant to the Bureau of Sport Fisheries and Wildlife or the Montana Department of Fish and Game.

If you find a dead animal that may have been unlawfully poisoned or discover an unauthorized "bait station", report it. Regardless of the merits of the directives regulating the use of predator poisons, they must be enforced.

WHERE TO WRITE

Many times I've suggested writing to your congressman, legislator or other official concerning state or national legislation and/or policies that may adversely affect Montana's natural resources. And hopefully, some readers have followed through and sent their convictions to the proper person.

Since then, it has dawned on me that some might not know "where" to send their letters, so I've listed the addresses below. Please use them. (Just fill in the correct name.)

Governor _____
State of Montana
Helena, Montana 59601

The President
The White House
Washington, D. C. 20500

Senator _____
State of Montana
Helena, Montana 59601*

The Honorable _____
Senate Office Building
Washington, D. C. 20510

Representative _____
State of Montana
Helena, Montana 59601*

The Honorable _____
House Office Building
Washington, D. C. 20515

** These addresses apply only while the legislature is in session. At all other times, mail must be addressed to individual home addresses.*

the most dangerous animal

A New York City zoo has finally captured and raised in captivity the most dangerous animal in the world.

The sign on the cage reads, "You are looking at the most dangerous animal in the world. It alone, of all the animals that ever lived, can exterminate all the other animals in the world."

You guessed it. Behind the bars is a large mirror.

new word

New philosophies (like increased concern for our natural surroundings) bring new terms, as is the case with "ecotage."

It's defined by former Interior Secretary Stewart Udall as a combination of "ecology" and "sabotage." Apparently, the term was coined by Environmental Action, Inc. which recently announced its first nationwide "ecotage" contest. Prizes will be awarded to the persons or groups who used some vigilante tactic (within the law) to block pollution.

One example outlined in Environmental Action, Inc.'s handbook, "Ecotage", is petitioning thousands of people to send empty nonreturnable bottles to the presidents of companies who sell them or jars of polluted water to the management of manufacturers dirtying local waters.

who doesn't litter

A study by Keep America Beautiful, Inc., a national anti-litter organization, found that of all categories of people using the outdoors, sportsmen littered the least. Only five per cent of the litter defacing the rural areas investigated was put there by sportsmen. As is predictable, passing motorists were responsible for 70 per cent of the litter.

water bank

Montana is among 12 states named by the Secretary of Agriculture to participate in a new Water Bank Program which will

How old is that buck?

If you're one of those who still believe that the age of a deer can be told by counting the points on its antlers, take a gander at these photos. All three skulls are *yearlings* according to the most accurate yardstick of animal's age—its teeth.

compensate farmers for maintaining wetland habitat for wildlife.

Founded to curb rapid destruction of the nation's wetlands, the program is administered by the Agricultural Stabilization and Conservation Service with assistance from the Soil Conservation Service. Both federal agencies will work closely with the Bureau of Sport Fisheries and Wildlife and the Montana Department of Fish and Game.

The new program, which appears to be mutually beneficial to both farmers and wildlife, will only be available to six Montana counties: Daniels, Pondera, Teton, Toole, Roosevelt and Sheridan.

maybe this is what we need

A California judge has ordered the lifetime revocation of hunting and fishing privileges for two men convicted of possessing five deer out-of-season. In addition, the judge fined the two men $250 each and sent them to jail for 10 days.

Maybe severe punishment of this nature is what we need to stop poaching and other fish and game violations.

But regardless of the penalty, report any game violations you see . . . for the game violator is stealing from you.

more on predators

Proposed legislation to reimburse ranchers for livestock losses suffered from predators has received a favorable report from the House Committee on Agriculture, according to the Wildlife Management Institute.

The bill, if passed, would require the Secretary of Agriculture to pay ranchers the fair market value of livestock lost to predators. The measure covers private and public lands.

NATIONAL FORESTS AND OFF-ROAD VEHICLES

Citing damage to the resource, disturbance of wildlife, increased vandalism and safety as reasons, the U. S. Forest Service will close much of its land to cross-country motorized travel before the 1973 field season.

The closures, effective in six Montana national forests (mostly east of the Continental Divide), are a response to a Feb. 8, 1972 executive order by President Nixon.

The purpose of that order, entitled, "Use of Off-Road Vehicles on the Public Lands," is, according to the USFS, (1) to protect the resources of these lands, (2) to promote the safety of all public land users and (3) to minimize conflicts between various users of these lands.

A USFS release on the closure stated, "Regulations to prohibit or control the use of motor vehicles on National Forest lands are not intended to deny the public access to any area. Their purpose is to provide adequate public vehicle access to utilize the natural environment of the area concerned. Where these restrictions are established, it will require an adjustment by the motoring public who have become accustomed to off-road vehicle travel."

For further information please contact the individual forest supervisors.

roads closed for 1972 hunting season

Although open last year, roads have been closed in two prime hunting areas for the 1972 season. They are portions of roads in the Little Belt Mountains in central Montana and in the Gravally Mountains of southwestern Montana. Both areas are part of a cooperative elk-logging study by the U. S. Forest Service and this department (M.O. Jan/Feb 1972). All cross-country travel is taboo in these areas, and certain established roads and trails have also been closed.

Contact personnel at Beaverhead and Lewis and Clark National Forests for more information.

fertilizing fires

Have you ever seen "borate bombers" doing their thing to a raging forest fire? They plummet out of the smoky skies just above the tree-tops and release a load of bright red fire retardant, commonly known as "borate."

The only drawback of the modern fire control is that it not only suppresses the fire, but kills all the foliage it contacts. Borate is, according to the U. S. Forest Service, "a harsh soil sterilant of quite long duration."

However, the USFS, working with the fertilizer industry, has developed a new retardant that enriches the soil rather than sterilizing it.

Now when the "bombers" descend upon a blazing forest, they will have a double purpose — forest fire suppression and soil enrichment. The extra duty, which aides the environment, comes at very little, if any, extra cost.

Good going, USFS.

ANSWERS TO WATERFOWL QUIZ: 1. Mallard 2. Canvasback 3. Redhead 4. Red-necked Duck 5. Wood Duck 6. Common Goldeneye 7. Shoveller 8. American Widgeon 9. Blue-winged Teal 10. Pintail 11. Green-winged Teal 12. Gadwall 13. Bufflehead 14. American Merganser 15. Lesser Scaup 16. Ruddy Duck.

The Winning Point

A peculiar sight to the uninitiated is the little group of trucks, horse trailers, horses and dogs which characterize pointing-dog field trials throughout the U. S. and Canada. A novice might be even more surprised by the large throng of people, actively involved in the movements of two spirited pointers and their quest for game. Add to this the trill of the handlers' whistles, bellowing voices and gallery comments on intangibles like class, loftiness, range, style and handling ability, and the picture becomes even more confusing.

To clarify this madness, point-dog field trials began in 1874 in Memphis, Tenn. Since then the sport has become much more popular. Now the trials are run in circuits—on the Canadian prairies in late August, throughout the U. S. during the fall and in the southern states in early spring.

A pointing-dog field trial is an organized hunt under judgment. The major objective of the sport is, of course, to produce superior bird dogs. Owners seek and breed for good nose, conformation, brains, bidability, stamina, style and bird-handling ability.

Most trials are divided into four major stakes: puppy derby stakes (up to 18 months), dog derby stakes (up to 30 months), shooting-dog and all-age stakes (mature, completely trained dogs). The animals compete in pairs or braces, the pairing done at random from the total entrants. Each class contest usually lasts for 30 minutes, but some championship stakes make a dog perform for several hours. Each dog entered in a stake has an equal opportunity to demonstrate his bird-finding and handling abilities to the judges, who, at the conclusion of the event, select the winner on the basis of performance.

Field Trial Clubs in Montana

Great Falls Pointer and Setter Club
Mrs. Gary Parker, Secretary
843 13th Street Southwest
Great Falls, Montana 59404

Big Sky German Shorthaired Pointer Club
Mrs. Alice Felker, Secretary
2324 4th Avenue Southwest
Great Falls, Montana 59404

Rim Rock International Pointer and Setter Club
John Moore, Secretary
Cutbank, Montana 59427

Treasure State Pointer and Setter Club
Del LaBreche, Secretary
1936 Florida Avenue
Butte, Montana 59701

Professionals Rate Department Second

The Montana Department of Fish and Game was judged second in overall information and education effort by the professional organization of state conservation agencies.

The award was presented at the American Association for Conservation Information's international conference in Salt Lake City June 26th through the 28th. The department was judged in nine different information catagories by professionals in each field. Agencies from the U. S. and Canada entered the competition.

The department had three big winners: a television film, "The Yellowstone"; the magazine, MONTANA OUTDOORS and a hunter safety test for youth, "Shoot or Don't Shoot." Each individual winner earned points towards the final, overall award.

"The Yellowstone" is a television program on the resource problems in the Yellowstone River Valley. The movie, written by Robert Carroll, Harley Yeager and Fletcher Newby and edited by Ken Slater, won first prize. The film was Slater's first major editing experience.

MONTANA OUTDOORS placed second in its category. The magazine won the award in its first year of publication.

And "Shoot or Don't Shoot" placed third. The test was developed by Vince Yannone, youth education specialist for the department. He used electronic equipment to simulate actual hunting experiences. Designed to test reactions and decisions of young hunters, lights and buzzers signaled incorrect hunting decisions.

This year was the first time the Montana Department of Fish and Game has placed in the AACI competition.

Next Time

Watch for these features in the November/December 1972 issue of MONTANA OUTDOORS

—hunting the grizzly
—four-wheel drive hunting
—salmon snagging
—the Gallatin late hunt
—Lewis & Clark Caverns
—the D/D syndrome—a common disease in Montana households

the power of a

BY DOROTHY BRADLEY

illustrated by Vern Craig

I MUST ADMIT to a feeling of exasperation when first pondering "women's role" in the environmental movement. To me the role is that of the individual —he or she, black or white, young or old. Surely anyone with a mind and a conscience recognizes participation in the environmental movement as a human responsibility, and the form it takes depends only on the individual's time, talent and personal satisfaction.

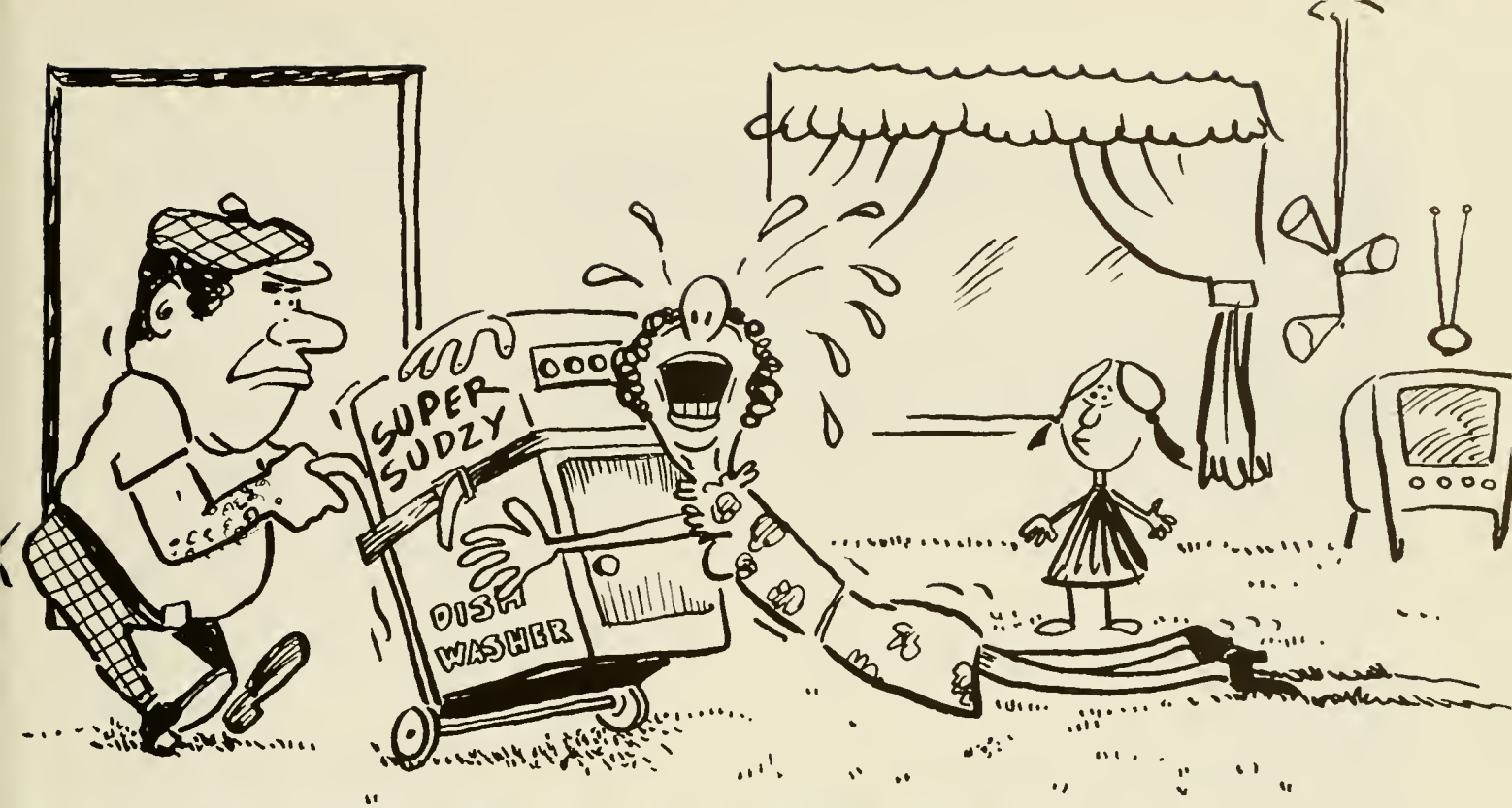
However, as long as the present traditional, and perhaps anachronistic social framework lingers, there are limiting factors which will determine a woman's role in the environmental movement, just as they determine the man's role. But we should always keep in mind the possibility that both men and women need to get beyond their conventional little niches, beyond a cozy little office 40 hours a week and beyond the psychic ease and comfort of domesticity. Most of all, an effort must be made to get away from peer group competition for more material goods, be it the four-wheel-drive jeep for the male or the three-bathroom home for the female.

The domestic arrangements of some women enable them to participate actively in environmental matters. Montana has a sizeable population of housewives, some with children in school, some with grown-up children and some without. How their free time is utilized depends on conscience and talent. Conscience would dictate the amount of effort and dedication; talent would dictate the direction—organizational work, writing, politics or art.

But I think the true power of women in the environmental movement has far more subtle facets and pervasive potentials than the time factor of the domestic arrangement. And to date, most of this power remains untapped. Perhaps women, more than any other segment of American society, have the opportunity to buck the machine or "fight city hall" at all levels.

For example, women make 80 per cent of all purchases in this country, and approximately that same percentage controls the bulk of the wealth. The desirability of this situation is not the question. What is important is that women, as the buyers in our society, could organize some very effective consumer boycotts.

In America we are faced with the grim fact that



woman...or do you really need that dishwasher?

manufacturers, for the most part, are more concerned with product sales than with the attendant social costs. But this state of affairs offers us a very powerful weapon—threat—the threat of losing money, losing a product and even losing face. If knowledge of environmental degradation makes little dent in manufacturers, an up-against-the-wall approach—a consumer boycott—might more effectively convince them of the need for change.

Given the dedication to organize a consumer boycott, and the commitment to carry it out, the potential for this approach is encouraging. Women have used this idea to control billboards in Hawaii. It was successful enough to convince a soy souce manufacturer to remove his outdoor advertisements after a very thorough 48-hour boycott.

In addition to influencing manufacturers, this approach also would have the desirable side effect of increased consumer awareness. Most of us never stop to question whether we should be buying aluminum foil, paper towels, copper chore boys, colored tissues and non-returnable pop cans. And I wonder how many women have complained about wasteful consumer practices but never stopped to discuss the problem with the grocer, never stopped to write a letter to the company or consumer advocate, never stopped buying the object of complaint.

It is also worthwhile to discuss the potential power of women in reorienting a family's insatiable life style to one more environmentally sound. We might start by asking the penetrating question, "What is different about our way of life today, at a time when we are all supposedly environmentally aware, as compared to 15 years ago?" I have asked this question to myself and others, and the answer almost inevitably is, "Nothing." If there is any difference at all, it is that family consumption has increased—another car, another TV, another house.

Most discussions of environmental problems end with two solutions—stopping population growth and changing attitudes. The former depends on the latter, so the latter is of greatest import. But I am becoming weary of lip service on this issue. Perhaps only an economic depression, high taxes and outrageous prices will make us back away from our present standard of living. In other words, a retreat from our present way of life will only come from necessity, not creative choice; by the time retreat

is a necessity, it will be too late. Sparkling streams will be choked with dams and diverted to flushing toilets; wildernesses will be gutted with mines, stripped of forests and covered with asphalt parking lots.

How many women will give up a dishwasher and hire the neighbor kids to help out after a big party? How many will give up a second or third car, in most cases a convenience but not a necessity? How many will stop placing new napkins at every plate for every meal and forego super-white underwear by using less destructive cleaning agents? Frankly, I don't think men care about many of these details, but neither do I think men will do much about correcting them.

Furthermore, women occasionally overlook the tremendous opportunities to influence their children, husbands and fathers. Rumor has it that President Johnson's doubts about the war originated in part from his daughter's objections. Robert McNamara's wife planted the seed of doubt about the Johnson administration's policies in his mind. And Walter Hickel's children had great influence on his startling and refreshingly strong environmental stands as Secretary of Interior.

One's influence on one's children may be even deeper and more far-reaching. But it is an amusing and astonishing state of affairs when it is the children in our society who are telling the parents not to litter, not to smoke and not to buy.

But parents still have a subtle opportunity to teach their children a reverence for life. There are unlimited approaches along these lines. One which comes to mind is a change in attitude about Christmas. I am referring to Christmas trees. Cutting down Christmas trees is one of the oldest traditions in this country, and certainly one I relished in my childhood. But having thought this matter over, I decided that chopping down a living tree is an absurd way to celebrate the birth of one who preached love. Surely this same love should be bestowed on the land community as well as the human community. I do not argue on the grounds of good and bad timber practices. (Sometimes the "thinning" practice is actually good forest management.) But it is very clear that we would not bring a tree into our house for a meager week or two had we planted, watered and nurtured it ourselves. Is there anything less sacred about a tree raised by nature? Celebrating Christmas with the death of a tree is indicative and symbolic of the lack of thought behind so many of our activities.

Perhaps these points seem trivial, but they nevertheless could represent the growth of a new consciousness. If families can be convinced that one car will suffice, and that aluminum foil and Christmas trees are items of the thoughtless past, they may someday begin to understand that more joy can come from a tent and a hike than from a fancy summer home and a motor cruiser. Unfortunately, society is not yet ready for a revelation of that magnitude. (How many times have we heard of a new real estate development that is being erected with great environmental sensitivity? How can environmental sensitivity be equated with perpetuation and exaggeration of an already over-consumptive life style?)

I will comment on one more facet of woman's role in the environmental movement. In the first issue of MS., Daniel Ellsberg pointed out an exceedingly interesting fact about women and the Vietnam war. He stated, "Regardless of race and socio-economic position, (women) were statistically less likely than men to support the war." Additionally, mothers were more likely than fathers to support their draft-resisting sons. Polls showed that this trend held even when women were married to relatively hawkish men. Whether this sexual difference of opinion is attributable to biology or culture is anyone's guess. Ellsberg's reaction seems to be one of celebration—viva la difference! He objects, however, to the fact that women have taken very little direct action to oppose our Vietnam engagement and are simply waiting around for those who created the war to change their minds and end it.

I share that same objection as it applies to the environmental movement. Women are certainly active in this state—GASP, The American Association of University Women and the League of Women Voters are excellent examples. But instead of taking direct leadership positions, Montana women are working to influence decision-makers, hoping that the environmentally destructive forces will undergo an attitudinal metamorphis. It is obvious that those who are against environmental degradation are the only ones who will stop it. To accomplish this, women must become leaders and decision-makers in elective positions, agencies and private companies.

What happened to the conviction that motivated women to chain themselves to the White House during the suffrage movement? Why isn't that traditional, feminine compassion and courage asserting itself in modern America? I hope it is not all lost in the depths of wall-to-wall carpeting, electric hair dryers and colored TV sets.

Two years ago, Dorothy Bradley was elected to the state House of Representatives from Gallatin County. She received her Bachelor of Arts degree in anthropology from Colorado College in 1969. Besides her political role, 25-year-old Miss Bradley is attending Montana State University, Bozeman, on a study grant.

color him ORANGE

With the new "fluorescent orange" requirement for Montana hunters, I know many women are thinking about sewing a vest or jacket for the hunters in their families. The only problem—where to buy material that meets the department's requirements.

Fish and Game understands the dilemma and has done what it can to make an acceptable fabric available.

According to Hunter Safety Coordinator Mel Wojcik, the "official" hunter orange fabric is available from Southern Mills Inc. in Senoia, Georgia. (The address is at the end of this article.) However, he said he wasn't sure the company would fill individual orders. Some Montana fabric centers do carry fabrics from the Georgia firm. These fabrics are marked S/415 Hunter's Orange.

I did a quick check of fabric stores in most of Montana's larger cities and found a majority of the stores carry a fabric that meets the requirements or have such a fabric on order.

A variety of fabrics come in the correct color although most stores carry at least a nylon, windbreaker-like material. Some have "hunter orange" wool on order as well as a 100 per cent acrylic, a fabric much like poplin.

A majority of the fabrics are water resistant, though not completely water repellant.

The fabrics are also available in a variety of widths, 45 inches and 60 inches the most common. Most nylon is 45 inches wide and costs about $2.50 a yard. The acrylic and wool are about 60 inches wide and sell for $5 a yard.

"Hunter orange" goes by a host of names—international orange, blazer orange and fluorescent orange are the most common. If the material you find is not called one of these, chances are it will be acceptable IF it can pass this little test.

Buy a foot or so of the material and check its color in a brightly lit room. It should be bright orange. Now turn off the lights and check the color again, this time in very dim light to simulate dusk. Is the fabric still bright orange? Does it retain its color even in dim light? If it does, it should meet the "hunter orange" requirements.

A word of caution: don't cheat on your at-home test. You are playing with the safety of your family, not to mention the fine involved if your hunter doesn't comply with the law.

And a tip for those who don't intend to create something fashionable for hubby. The department has compiled a partial list of manufacturers who handle ready-to-wear sports clothes made of "hunter orange" material. That list, together with addresses, appears below.

Southern Mills Inc.
Senoia, GA 30276

Duxbak (Utica Duxbak Corp.)
Utica, NY 13502

Sears Roebuck and Co.
Outlets nationwide

Game Winner Inc.
2940 1st National Bank Tower
Atlanta, GA 30303

Red Head
4100 Platinum Way
Dallas, TX 75237

10X Manufacturing
100 SW 3rd St.
Des Moines, IA 50309

Columbia Sportswear Co.
6600 N. Baltimore St.
Portland, OR 97203

Bob Allen's Gun Club
Sportswear
P.O. Box 477
Des Moines, IA 50315

Browning Arms Co.
Rt. 1
Morgan, UT 84050

---

for questionable water

A nationally syndicated doctor's column recently featured a letter on using household bleach in a well.

The doctor vetoed the idea, saying it was impossible to judge the amount of water in the well and therefore the correct amount of bleach to use.

But the doctor did okay bleach for individual glasses of questionable drinking water. The amount he recommended was eight drops of a household bleach containing sodium hypochlorite for each gallon of water. Per eight ounce glass, that's about one-half drop. He also suggested waiting an hour before drinking the treated water.

THE COVER STORY

montana grouse

SAGE GROUSE (*Centrocercus urophasianus*): A large, grayish grouse of open sage country, as large as small turkey. Identified by contrasting black belly patches and spike-like feathers. Male is considerably larger than female, has black throat; when dancing, puffs out white chest, exposes yellow air sacs on neck and erects and spreads its pointed tail feathers. Found in sagebrush plains. Male 26 to 30 inches, female 22 to 23 inches.

SHARP-TAILED GROUSE (*Pedioecetes phasianellus*): A pale, speckled brown grouse of prairie brush. Note short, pointed tail which shows white in flight. Found in prairie, brushy parklands, open thickets, forest edges, clearings. May be mistaken for female pheasant which has long, pointed tail. 15 to 20 inches.

SPRUCE GROUSE (*Canachites canadensis*): Tame, dusky-colored grouse at home in deep, wet coniferous forests of North. Male has sharply defined black breast and some white spotting on the sides. At close range, male shows comb of bare red skin above eyes and a chestnut band on tip of tail. Franklin Grouse (*C. franklinii*) male has row of conspicuous white spots at base of black tail and no chestnut band. Female rusty brown, thickly barred. Has blackish tail with basic pattern of male. Found in spruce forests, jack pines, lodgepole pines. 15 to 17 inches. inches.

RUFFED GROUSE (*Bonasa umbellus*): A large, red-brown or gray-brown chicken-like bird of brushy woodlands, usually not seen until it springs into the air with startling whir. Note fan-shaped tail with broad black band near its tip. Two color types occur: "red" birds with rufous on tail and "gray" birds with gray tails. Gray birds are typical of Rockies; red of Pacific states. Found in mixed or deciduous woodlands. 16 to 19 inches.

BLUE GROUSE (*Dendragapus obscurus*): A dusky gray or blackish grouse with light band at tip of black tail. (Birds in north Rockies, *D. o. richardsonii*, lack this band.) Males at close range show a yellow or orange "comb" above eye. Females are gray-brown, barred with black, have blackish tails suggestive of male. Found in coniferous forests, open slash burns. 15½ to 21 inches.

dear F&G

tip of the hat

Enclosed is my coupon and attached money order for my subscription of MONTANA OUTDOORS. The additional $5 is a contribution in appreciation for keeping me on your mailing list the past three years.

The writers and photography staff are doing a superb job in this magazine. A tip of my fishing hat to these gentlemen.

Montana is my future retirement home and through your magazine I hope to get better acquainted with the state I have picked for my final resting place. My leisure years will be spent contributing to, instead of taking from, the environment I love so well.

Elze A. Graham
Godfrey, IL

rancher speaks out

The family really enjoys your magazine, but why not tell of the things that really happen to the farmers and ranchers' lambs and some other animals. We have lost lambs to both coyotes and eagles and in the past my husband tells of how the coyotes used to get into the turkey flocks when he herded turkeys as a boy. This year one of our neighbors has lost over 20 lambs to coyotes. At $25 apiece this is quite a loss. I enjoy seeing coyotes, deer, etc. but do feel we ranchers should be entitled to protect our property.

I remain a subscriber and reader of your magazine.

Mrs. Jim Lundin
Forest Grove, MT

more on predators

I found the article about the coyote and predator control in the MONTANA OUTDOORS, July/August issue, interesting.

I have been wondering, what the Fish and Game Dept.'s approach would be if this predator problem were turned over to the Dept.? After reading the article, I sure do hope that our Fish and Game Dept. is never burdened with predator control.

In this article the Fish and Game is vastly overestimating the effectiveness of sportsmen "controlling" predators in their leisure hours. A coyote killing lambs is very smart and in the case of "sportsmen control" I'll bet the coyote gets smarter. The sportsman never sees the coyote and the woolgrower keeps losing lambs. I am pretty sure our Fish and Game has a lot of learning to do about predator control. You people are underestimating the problem.

For the last few years some super ecologists have just about convinced the entire world that 1080 and getterguns have killed just about all the coyotes in existence and maybe 20 or 30 other species of birds and animals. But, in the last part of your article on the coyote, you have stated "the coyote has not only survived, but thrived in spite of these control measures." Why couldn't the Montana Fish and Game Dept. have made a statement to this effect two or three years ago when Montana Stockmen were faced with all sorts of accusations?
and Game Dept. is handed the responsibility of predator control for the state of Montana, not only will hunting, fishing, the tourist, the ecologist and so on be of concern; the protection of Montana livestock will be too and frankly I doubt if the Fish and Game Dept. will ever have the initiative to do so.

Eugene Bucklin
Redstone, MT

used for research

As both a researcher and educator of wildlife management and current head of our wildlife research reference center, I can assure you that MONTANA OUTDOORS will be of significant value here to both students and fellow professors. Personally, I feel very honored to present your magazine to the Center, as I've enjoyed it for some time.

Mark A. Hersman
Wildlife Research
Reference Center
Big Prairie, OH

MOVING?

If you're planning to move in the near future, please fill out this blank and send it to MONTANA OUTDOORS, Fish and Game Department, Helena, Montana 59601.

FORMER ADDRESS:
name
address
city state zip

NEW ADDRESS:
name
address
city state zip

editorial

By Bill Schneider

follow-through on national hunting and fishing day

NOW, IT'S A reality—a special day honoring the nation's sportsmen—National Hunting and Fishing Day.

President Nixon, Montana Governor Forrest H. Anderson and many states, counties and cities have already proclaimed Sept. 23, 1972 as the first National Hunting and Fishing Day. And in every case, the public official had the sportsmen's contributions to conservation in mind when making the proclamation.

But the proclamations are only the beginning or foundation of what should be a meaningful and significant event. Now, we must follow through.

Hunters and anglers have shouldered—financially and otherwise—a major part of the nation's conservation effort for decades and have not grown weary.

They continue to frequent the front lines of virtually every major environmental battle, speaking out for the wise use of our natural resources—all of them, not just fish and game.

So if you are a sportsman, you have a responsibility to take advantage of the big opportunity this day has to offer. It's a chance to get the general public—not just other sportsmen—involved in conservation issues . . . an opportunity to let someone else "in" on the rewards—mental and physical—your sport has to offer.

In the last issue of MONTANA OUTDOORS (July/August 1972), we listed several ways individuals and groups can enlighten the public on the ways and whys of conservation action programs. We suggest you pick one and give it a go.

One that we didn't list was that any one group or individual can get a manual to assist in planning and promoting this day from the National Shooting Sports Foundation, 1075 Post Road, Riverside, Ct. 06878. The cost is $1.00.

Yes, everyone should know that sportsmen—by buying licenses and paying taxes on their equipment—pay the way for many conservation programs. But that's just one way hunters and fishermen create a better environment for all animals—including man.

—Bill Schneider